

**IN THE UNITED STATES PATENT AND TRADEMARK OFFICE**

Applicant(s): J. TANAKA, et al

Serial No.: (not yet assigned)

Filed: November 26, 2001

For: COLOR LIQUID CRYSTAL PANEL AND COLOR LIQUID  
CRYSTAL DISPLAY APPARATUS

**PRELIMINARY AMENDMENT**

Commissioner for Patents  
Washington, D.C. 20231

November 26, 2001

Sir:

The following amendments and remarks are respectfully  
submitted in connection with the above-identified application.

**IN THE SPECIFICATION:**

Page 1, between the title of the invention and line 1,  
insert the following paragraph:

**CROSS REFERENCE TO RELATED APPLICATION**

This is a continuation of U.S. application Serial No.  
09/797,720, filed March 5, 2001, the subject matter of which  
is incorporated by reference herein.

**IN THE CLAIMS:**

Please cancel claims 1, 2, 5, 6, 9 and 11-12 without  
prejudice or disclaimer of the subject matter thereof.

Please amend claims 3, 4, 7, 8, 10, 13, 14 and 20 as  
follows:

3. (amended) A color liquid crystal display apparatus characterized in that:

said color liquid crystal panel comprises on one substrate of a pair of substrates which sandwich liquid crystal,

thin-film transistor elements arranged in a matrix shape in correspondence with pixels;

a wiring portion of said thin-film transistor elements;

a pixel electrode connected to said wiring portion; and

a color filter layer formed between said pixel electrode and an inorganic insulating layer for covering said wiring portion of said thin-film transistor elements,

said color filter layer includes a lower light-transmission flatted layer and a primary-color-type colored filter pattern, and is provided an opening through which a connection portion of said wiring portion of said thin-film transistor elements and said pixel electrode is penetrated;

a common electrode commonly used for plural pixels is formed on the other substrate;

said pixel electrode is driven by said thin-film transistor elements in response to an image signal; and

said liquid crystal is driven by a voltage applied between said pixel electrode and said common electrode to form an image.

4. (amended) A color liquid crystal display apparatus characterized in that:

said color liquid crystal panel comprises on one substrate of a pair of substrates which sandwich liquid crystal,

thin-film transistor elements arranged in a matrix shape in correspondence with pixels;

a wiring portion of said thin-film transistor elements;

a pixel electrode connected to said wiring portion; and

a color filter layer formed between said pixel electrode and an inorganic insulating layer for covering said wiring portion of said thin-film transistor elements,

said color filter layer includes a lower light-transmission flatted layer, a primary-color-type colored filter pattern and an upper light-transmission protection layer, and is provided with an opening through which a connection portion of said wiring portion and said pixel electrode is penetrated; and

a common electrode commonly used for plural pixels is formed on the other substrate;

said pixel electrode is driven by said thin-film transistor elements in response to an image signal; and

said liquid crystal is driven by a voltage applied between said pixel electrode and said common electrode to form an image.

7. (amended) A color liquid crystal display apparatus as claimed in claim 3 characterized in that:

said lower light-transmission flatted layer and said primary-color-type colored pattern are made of photosensitive resin.

8. (amended) A color liquid crystal display apparatus as claimed in claim 4 characterized in that:

said lower light-transmission flatted layer, said primary-color-type colored pattern and said upper light-transmission protection layer are made of photosensitive resin.

10. (amended) A color liquid crystal display apparatus as claimed in claim 4 characterized in that:

said lower light-transmission flatted layer and said upper light-transmission protection layer are made of thermosetting resin.

13. (amended) A color liquid crystal display apparatus as claimed in claim 3 characterized in that:

said lower light-transmission flatted layer is a polyimide film in which a polyimide precursor whose molecular terminal is end-capped is imidized by heat-curing.

14. (amended) A color liquid crystal display apparatus as claimed in claim 4 characterized in that:

said lower light-transmission flatted layer is a polyimide film in which a polyimide precursor whose molecular terminal is end-capped is imidized by heat-curing.

20. (amended) A color liquid crystal display apparatus as claimed in claim 17 characterized in that:

said lower light-transmission flattened layer is a polyimide film in which a polyimide precursor whose molecular terminal is end-capped is imidized by heat-curing.

#### REMARKS

By the above amendment, the specification has been amended so as to incorporate the Cross-Reference to Related Application, claims 1, 2, 5, 6, 9, 11 and 12 have been canceled, and claims 3, 4, 7, 8, 10, 14 and 20 have been amended to correct the preamble of such claims.

Also submitted herewith is a proposed amendment to the drawings, wherein Fig. 13 has been amended at this time. Upon receipt of the approval of the amendment to the drawings and receipt of a Notice of Allowance, the proposed drawing corrections will be effected in accordance with present practice.

Examination of the application and favorable action thereof is respectfully requested.

To the extent necessary, applicant's petition for an extension of time under 37 CFR 1.136. Please charge any shortage in the fees due in connection with the filing of this paper, including extension of time fees, to Deposit Account

No. 01-2135 (500.39756CX1) and please credit any excess fees to such deposit account.

Paula Kuen

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(703) 312-6600

**VERSION WITH MARKINGS TO SHOW CHANGES MADE****IN THE SPECIFICATION:**

Page 1, between the title of the invention and line 1,  
insert the following paragraph:

**CROSS REFERENCE TO RELATED APPLICATION**

This is a continuation of U.S. application Serial No.  
09/797,720, filed March 5, 2001, the subject matter of which  
is incorporated by reference herein.

**IN THE CLAIMS:**

Please cancel claims 1, 2, 5, 6, 9 and 11-12 without  
prejudice or disclaimer of the subject matter thereof.

Please amend claims 3, 4, 7, 8, 10, 13, 14 and 20 as  
follows:

3. (amended) A color liquid crystal [panel] display  
apparatus characterized in that:

said color liquid crystal panel comprises on one  
substrate of a pair of substrates which sandwich liquid  
crystal,

thin-film transistor elements arranged in a matrix shape  
in correspondence with pixels;

a wiring portion of said thin-film transistor elements;

a pixel electrode connected to said wiring portion; and

a color filter layer formed between said pixel electrode  
and an inorganic insulating layer for covering said wiring  
portion of said thin-film transistor elements,

said color filter layer includes a lower light-transmission flatted layer and a primary-color-type colored filter pattern, and is provided an opening through which a connection portion of said wiring portion of said thin-film transistor elements and said pixel electrode is penetrated;

a common electrode commonly used for plural pixels is formed on the other substrate;

said pixel electrode is driven by said thin-file transistor elements in response to an image signal; and

said liquid crystal is driven by a voltage applied between said pixel electrode and said common electrode to form an image.

4. (amended) A color liquid crystal [panel] display apparatus characterized in that:

said color liquid crystal panel comprises on one substrate of a pair of substrates which sandwich liquid crystal,

thin-film transistor elements arranged in a matrix shape in correspondence with pixels;

a wiring portion of said thin-film transistor elements;

a pixel electrode connected to said wiring portion; and

a color filter layer formed between said pixel electrode and an inorganic insulating layer for covering said wiring portion of said thin-film transistor elements,

said color filter layer includes a lower light-transmission flatted layer, a primary-color-type colored filter pattern and an upper light-transmission protection



layer, and is provided with an opening through which a connection portion of said wiring portion and said pixel electrode is penetrated; and

a common electrode commonly used for plural pixels is formed on the other substrate;

said pixel electrode is driven by said thin-file transistor elements in response to an image signal; and

said liquid crystal is driven by a voltage applied between said pixel electrode and said common electrode to form an image.

7. (amended) A color liquid crystal [panel] display apparatus as claimed in claim 3 characterized in that:

said lower light-transmission flatted layer and said primary-color-type colored pattern are made of photosensitive resin.

8. (amended) A color liquid crystal [panel] display apparatus as claimed in claim 4 characterized in that:

said lower light-transmission flatted layer, said primary-color-type colored pattern and said upper light-transmission protection layer are made of photosensitive resin.

10. (amended) A color liquid crystal [panel] display apparatus as claimed in claim 4 characterized in that:

said lower light-transmission flatted layer and said upper light-transmission protection layer are made of thermosetting resin.

13. (amended) A color liquid crystal [panel] display apparatus as claimed in claim 3 characterized in that:

said lower light-transmission flatted layer is a polyimide film in which a polyimide precursor whose molecular terminal is end-capped is imidized by heat-curing.

14. (amended) A color liquid crystal [panel] display apparatus as claimed in claim 4 characterized in that:

said lower light-transmission flatted layer is a polyimide film in which a polyimide precursor whose molecular terminal is end-capped is imidized by heat-curing.

20. (amended) A color liquid crystal [panel] display apparatus as claimed in claim 17 characterized in that:

said lower light-transmission flatted layer is a polyimide film in which a polyimide precursor whose molecular terminal is end-capped is imidized by heat-curing.

500.39756CX1

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For: COLOR LIQUID CRYSTAL PANEL AND COLOR LIQUID  
CRYSTAL DISPLAY APPARATUS  
Group: 2871  
Examiner:

**PROPOSED AMENDMENT TO THE DRAWINGS**

Commissioner for Patents  
Washington, D.C. 20231

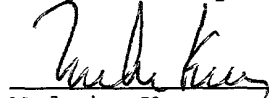
November 26, 2001

Sir:

It is proposed that the drawings in the above-identified application be amended in accordance with the attached red-lined print, and approval of these drawing corrections is respectfully requested at this time.

Upon receipt of the approval of the amendment to the drawings and receipt of the official Notice of Allowance, the drawing amendments will be effected in accordance with the new procedures set forth in 1017 OG 4.

Respectfully submitted,



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ANTONELLI, TERRY, STOUT & KRAUS, LLP

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Attachment(s)  
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